

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of manufacturing a sensor device comprising a circuit having organic thin films formed on surface of microelectrodes forming a two-dimensional array and a transducing element that detects change in electric impedance in connection with an electro-conductive polymer, the polymer absorbing aromatic molecules, the method comprising:

printing a plurality of solutions of thin film materials through ~~an~~ a plurality of ink-jet nozzles simultaneously onto the surfaces of the microelectrodes such that organic thin films are formed on the microelectrodes,

wherein each of the plurality of the solutions comprise~~[[s]]~~ an electro-conductive polymer and a solvent, the electro-conductive polymer being different for each of the plurality of solutions~~[[,]]~~;

~~wherein~~ the ink-jet nozzles each ~~has~~ have a piezo-electric element, the ink-jet nozzles ~~is~~ being formed in a multi-line head nozzle, and the solution has a viscosity of about 3 centipoise or less~~[[,]]~~;

~~wherein~~ the step of printing the solution of thin film material comprises the steps of:

(a) deforming the piezo-elements by delivering an electric signal to the piezo-elements;

(b) ejecting the solution via the ink-jet nozzles to rest on the microelectrodes, and

(c) depositing the electro-conductive polymer onto different regions of the two-dimensional array to produce a device specific to a group of chemicals[.]; and

~~wherein~~ the electro-conductive polymer ~~includes~~ of each solution consists of at least one selected from the group consisting of ~~polymethylepyrrole,~~ polythiophene, polymethylethiophene, and polyphenylene vinylene.

2. – 6. (Cancelled)

7. (Previously Presented) The method of claim 1, wherein the electrodes and the circuit are formed on a plastic substrate.

8. (Previously Presented) The method of claim 7, wherein the circuit comprises poly-silicon thin film transistors.

9 – 27. (Cancelled)